

# REL-MR- 24DC/21HC - Single relay



2961312

<https://www.phoenixcontact.com/us/products/2961312>

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Plug-in miniature power relay, with power contact for high continuous currents, 1 changeover contact, input voltage 24 V DC

## Your advantages

- Switching current of up to 16 A

## Commercial Data

Item number	2961312
Packing unit	1 pc
Minimum order quantity	10 pc
Sales Key	C460
Product Key	CK6195
Catalog Page	Page 290 (C-5-2019)
GTIN	4017918187576
Weight per Piece (including packing)	16.123 g
Weight per Piece (excluding packing)	12.91 g
Customs tariff number	85364900
Country of origin	AT

# REL-MR- 24DC/21HC - Single relay



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## Technical Data

### Product properties

Product type	Single relay
Operating mode	100% operating factor
Mechanical service life	3x 10 <sup>7</sup> cycles

### Insulation characteristics

Overvoltage category	III
Pollution degree	3

### Electrical properties

Service life electrical	see diagram
Maximum power dissipation for nominal condition	0.41 W
Test voltage (Winding/contact)	5 kV AC (50 Hz, 1 min., winding/contact)

### Input data

#### Coil side

Nominal input voltage $U_N$	24 V DC
Input voltage range	15.6 V DC ... 57.6 V DC
Drive and function	monostable
Drive (polarity)	non-polarized
Typical input current at $U_N$	17 mA
Typical response time	7 ms
Typical release time	3 ms
Coil resistance	1440 $\Omega$ $\pm$ 10 % (at 20 °C)

### Output data

#### Switching

Contact switching type	1 changeover contact
Type of switch contact	Single contact
Contact material	AgNi
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V (at 10 mA)
Limiting continuous current	16 A
Maximum inrush current	50 A (20 ms)
Min. switching current	10 mA (at 12 V)
Interrupting rating (ohmic load) max.	384 W (at 24 V DC)
	58 W (at 48 V DC)
	48 W (at 60 V DC)
	50 W (at 110 V DC)
	80 W (at 220 V DC)
	4000 VA (for 250 V AC)

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Switching capacity	2 A (at 24 V, DC13)
	0.2 A (at 110 V, DC13)
	0.2 A (at 250 V, DC13)
	6 A (at 24 V, AC15)
	6 A (at 120 V, AC15)
	6 A (at 250 V, AC15)
Motor load according to UL 508	1/2 HP, 120 V AC (N/O contact)
	1 HP, 240 V AC (N/O contact)
	1/3 HP, 120 V AC (N/C contact)
	3/4 HP, 240 V AC (N/C contact)
	1/4 HP, 200 ... 250 V AC

## Connection data

Connection method	Plug / solder connection
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## Dimensions

Dimensional drawing	
Width	12.7 mm
Height	29 mm
Depth	15.7 mm

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	RT II
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

## Approvals

### Corrosive gas test

Identification	ISA-S71.04. G3 Harsh Group EN 60068-2-60
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## Standards and regulations

Standards/regulations	IEC 60664 EN 50178 EN 61810-1
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## Mounting

Assembly instructions	Can be aligned without spacing (> 70 °C ≥ 2.5 mm)
Mounting position	any

# REL-MR- 24DC/21HC - Single relay

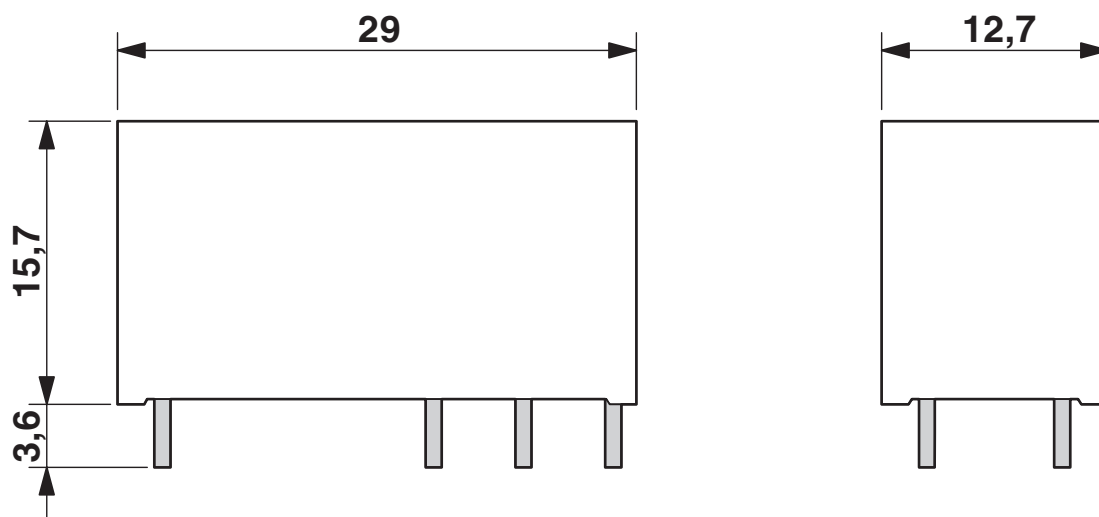


2961312

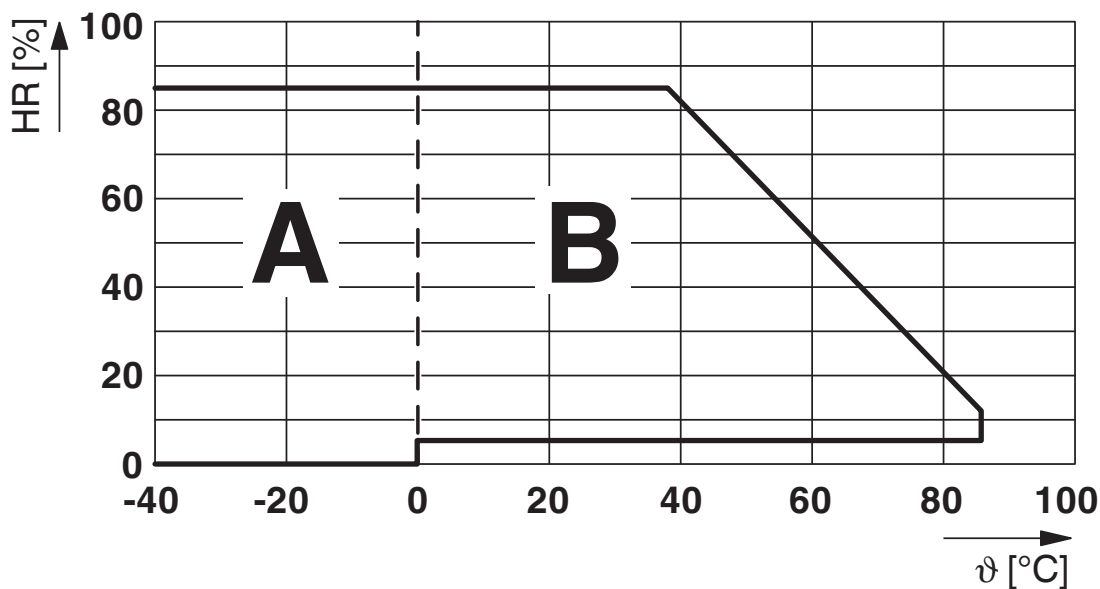
<https://www.phoenixcontact.com/us/products/2961312>

## Drawings

Dimensional drawing



Diagram



Permissible humidity for operation and storage.

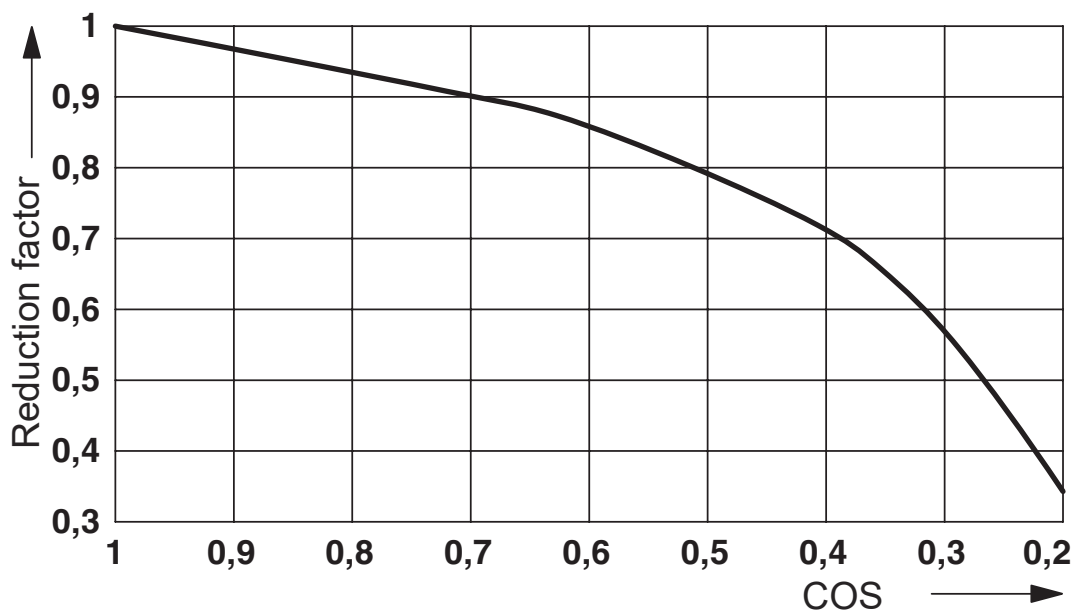
The maximum permissible ambient temperature as specified in the data sheet must be observed.

Area A: Ice buildup at ambient temperatures  $\leq 0^\circ\text{C}$  must be prevented

Area B: Condensation at ambient temperatures  $> 0^\circ\text{C}$  must be prevented

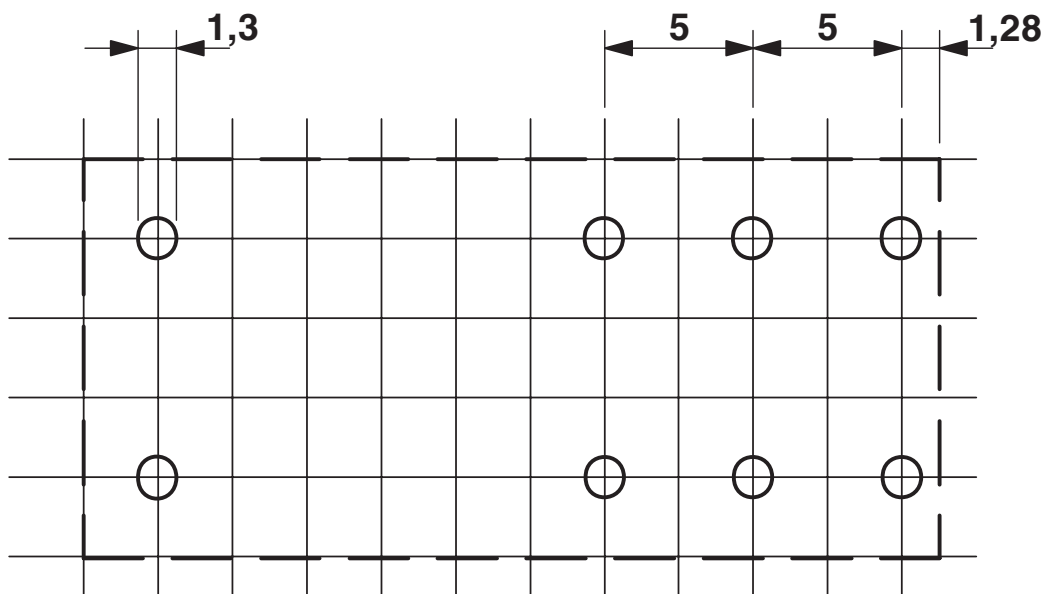
On 30 full days that are naturally distributed across an entire year, a humidity level of 95% is permissible at an ambient temperature  $\leq 25^\circ\text{C}$ .

Diagram



Service life reduction factor with various cos phi

Drilling plan/solder pad geometry



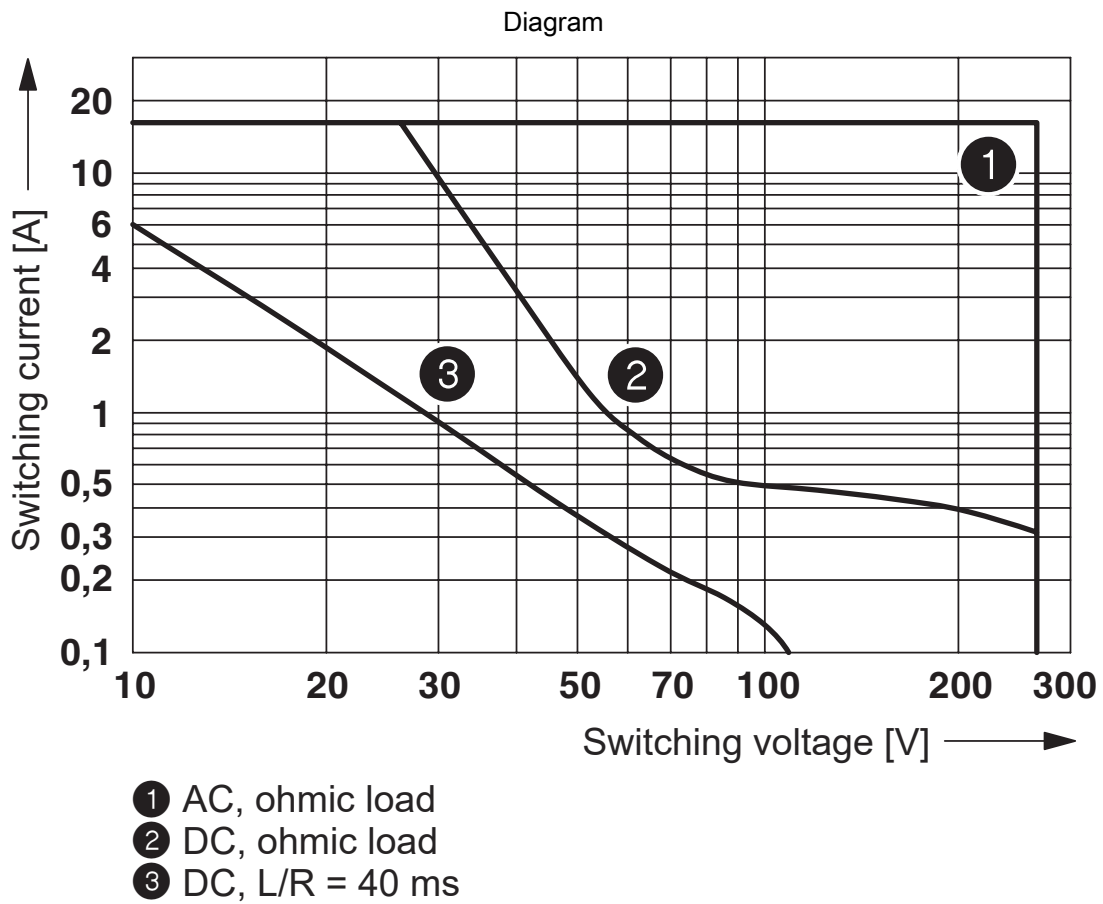
Basic pitch 2.5 mm

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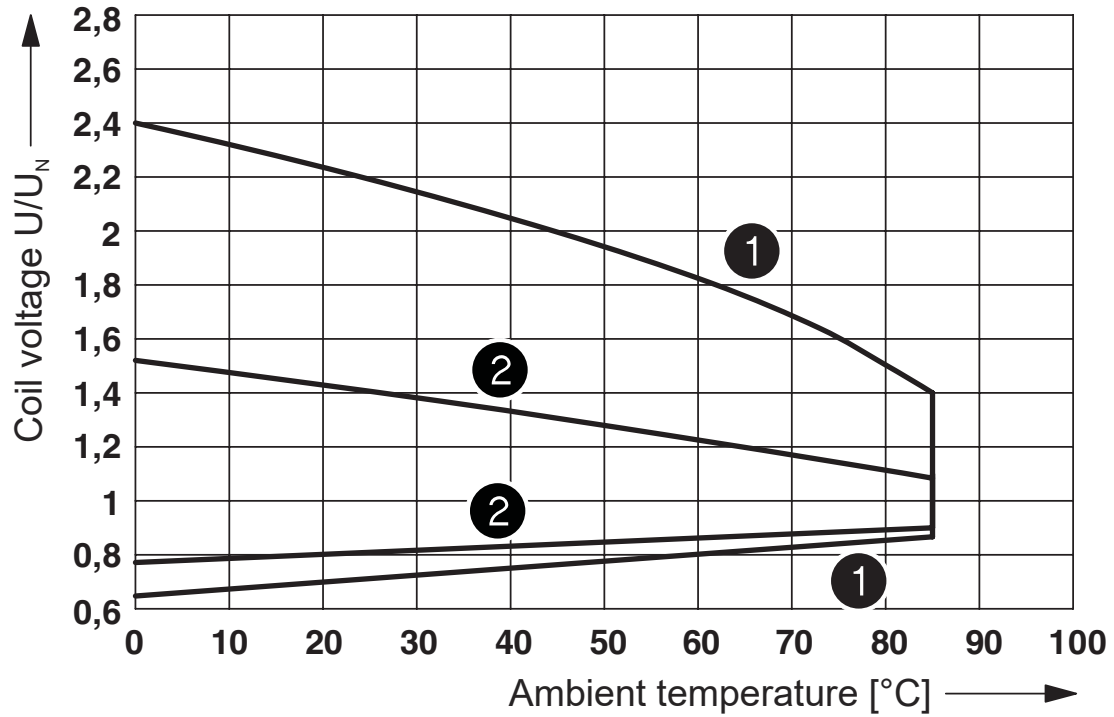
Interrupting rating

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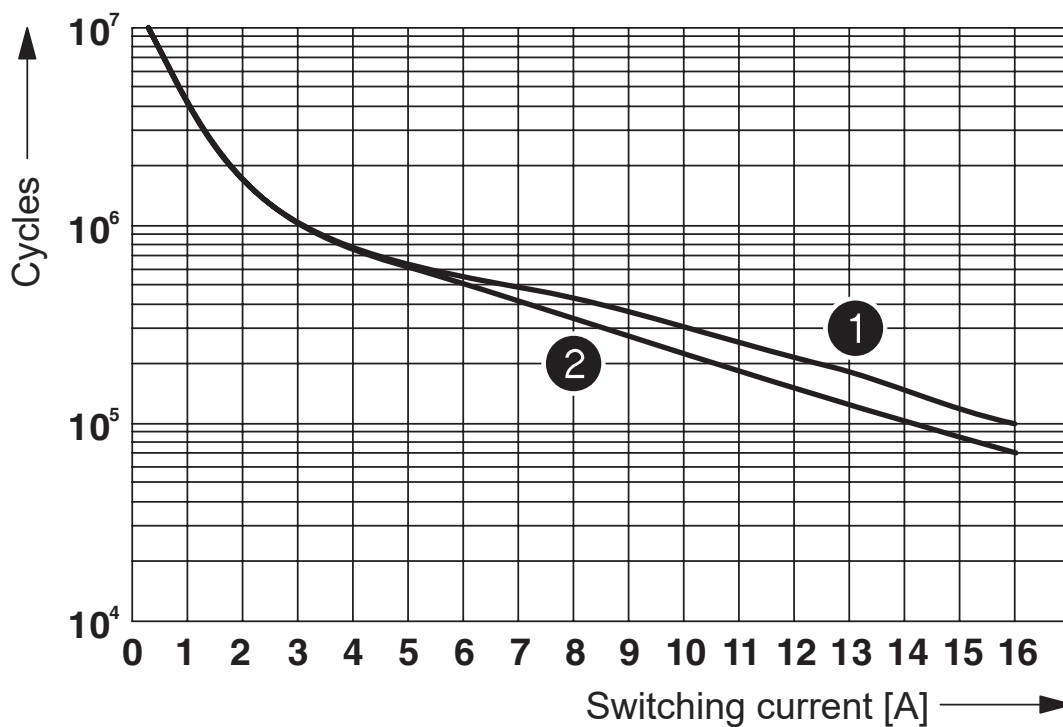
Diagram



- ① DC coils
- ② AC coils

Operating voltage range

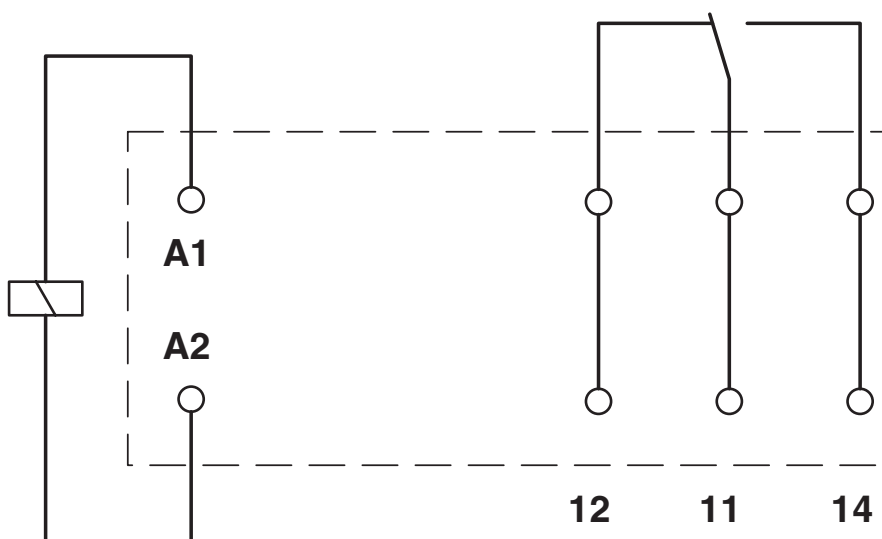
Diagram



- ① 250 V AC, ohmic load (DC coils)
- ② 250 V AC, ohmic load (AC coils)

Electrical service life

Circuit diagram





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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2961312>



**cUL Recognized**  
Approval ID: FILE E 228652



**UL Recognized**  
Approval ID: FILE E 228652



**EAC**  
Approval ID: TR\_TS\_D\_00573\_c



**UL Recognized**  
Approval ID: FILE E 228652



**EAC**  
Approval ID: RU\*C-DE.\*08.B.00010



**VDE Zeichengenehmigung**  
Approval ID: 40007758



**VDE Zeichengenehmigung**  
Approval ID: 40048281



**cUL Recognized**  
Approval ID: FILE E 228652



**cUL Recognized**  
Approval ID: FILE E 172140



**UL Recognized**  
Approval ID: FILE E 172140

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## Classifications

### ECLASS

ECLASS-11.0	27371601
ECLASS-12.0	27371601
ECLASS-13.0	27371601

### ETIM

ETIM 8.0	EC001437
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### UNSPSC

UNSPSC 21.0	39122300
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## Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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## Accessories

### PLC-BSC- 24DC/21HC - Relay base

2967772

<https://www.phoenixcontact.com/us/products/2967772>



14 mm PLC basic terminal block for high continuous currents with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V DC

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### PLC-BSC- 24UC/21HC - Relay base

2967785

<https://www.phoenixcontact.com/us/products/2967785>



14 mm PLC basic terminal block for high continuous currents with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC

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## PLC-BPT- 24DC/21HC - Relay base

2900254

<https://www.phoenixcontact.com/us/products/2900254>



14 mm PLC basic terminal block for high continuous currents with Push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V DC

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## PLC-BPT- 24UC/21HC - Relay base

2900255

<https://www.phoenixcontact.com/us/products/2900255>



14 mm PLC basic terminal block for high continuous currents with Push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC

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## RIF-1-BPT/2X21 - Relay base

2900931

<https://www.phoenixcontact.com/us/products/2900931>



Relay base RIF-1..., for miniature power relay with 1 or 2 changeover contacts or solid-state relays of the same design, Push-in connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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## RIF-1-BSC/2X21 - Relay base

2900930

<https://www.phoenixcontact.com/us/products/2900930>



RIF-1... relay base, for miniature power relay with 1 or 2 changeover contacts or identical solid-state relays, screw connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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